Amendments to the Claims:

This listing of claims will replace all prior version, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A digital imaging system for capturing a color image comprising:

    an image sensor having;

        a first group of pixels that have a first light sensitivity for generating color-specific image data on a first scale for a first color; and

        a second group of pixels that have a second light sensitivity for generating color-specific image data on a second scale for the first color, the first and second group of pixels having a common dynamic range wherein the light sensitivity of the first group of pixels overlaps with the light sensitivity of the second group of pixels;

    a scaling unit for receiving the image data from the first group of pixels and the image data from the second group of pixels and for outputting the image data on a common scale;

    a demosaic unit for determining intensity values of the first color using the scaled color-specific image data that is generated from the first and second groups of pixels; and

    an error correction unit for correcting the demosaiced intensity values of the first color for the demosaiced intensity values of the first color that are outside the common dynamic range of the first and second groups of pixels;

    wherein the error correction unit corrects the demosaiced intensity values of the first color by increasing demosaiced intensity values that exceed the top end of the common dynamic range.

2. (canceled)

3. (currently amended) The digital imaging system of claim 1 2 wherein the image sensor has an even distribution of the first and second groups of pixels.

4.   (original) The digital imaging system of claim 3 wherein the error correction unit increases demosaiced intensity values that exceed the top end of the common dynamic range by twice the difference between the exceeding intensity value and the top end of the common dynamic range.

5.   (original) The digital imaging system of claim 1 wherein the sensitivity of the first and second groups of pixels is adjusted to account for the expected level of contrast in an image.

6.   (original) The digital imaging system of claim 1 wherein the first and second groups of pixels capture green image data at two different sensitivities.

7.   (original) The digital imaging system of claim 6 wherein the sensitivity ratio of the first group of pixels to the second group of pixels is 1:4.

8.   (original) The digital imaging system of claim 1 wherein the image sensor further includes a third group of pixels that captures image data of a second color and a fourth group of pixels that captures image data of a third color.

9.   (original) The digital imaging system of claim 8 wherein the first and second groups of pixels capture green image data, the third group of pixels captures red image data, and the fourth group of pixels captures blue image data.

10. (currently amended) An image processing unit for processing color image data that is received from an image sensor, wherein the color image data received from the image sensor includes pixel values for a first color on a first scale, pixel values for the first color on a second scale, pixel values for a second color, and pixel values for a third color, the first scale and the second scale include a common dynamic range, the image processing unit comprising:

a scaling unit for ensuring that the pixel values for the first color on the first scale, the pixel values for the first color on the second scale, the pixel values for the second color, and the pixel values for the third color are all on the same scale;

a demosaic unit for receiving the pixel values for the first color, the pixel values for the second color, and the pixel values for the third color and for generating missing intensity values for the first, second, and third colors using the pixel values for the first color, the second color, and the third color; and

an error correction unit for correcting the demosaiced intensity values of the first color that are outside of the common dynamic range of the first color pixel values;

wherein the error correction unit corrects the demosaiced intensity values of the first color by increasing demosaiced intensity values that exceed the top end of the common dynamic range.

11. (canceled)

12. (currently amended) The digital imaging system of claim 10~~11~~ wherein:

the image sensor has an even distribution of the first and second groups of pixels; and

the error correction unit increases demosaiced intensity values that exceed the top end of the common dynamic range by a function of the difference between the exceeding intensity value and the top end of the common dynamic range.

13. (currently amended) A method for capturing a color image with a digital imaging system comprising:

capturing color-specific image data with a first group of pixels that have a first light sensitivity;

simultaneously capturing color-specific image data with a second group of pixels that have a second light sensitivity, wherein the color-specific image data from the first group of pixels and the color-specific image data from the second group of pixels are for a first color and wherein the first and second light sensitivities include a common dynamic range;

bringing the image data from the first group of pixels and the image data from the second group of pixels to a common scale;

determining intensity values of the first color for pixels using the scaled color-specific image data; and

correcting the determined intensity values for determined intensity values that are outside the common dynamic range of the first and second groups of pixels;

wherein the step of correcting includes increasing intensity values that exceed the top end of the common dynamic range.

14. (canceled)

15. (currently amended) The method of claim 13~~14~~ wherein the step of increasing intensity values that exceed the top end of the common dynamic range includes increasing an intensity value that exceeds the top end of the common dynamic range by twice the difference between the exceeding intensity value and the top end of the common dynamic range.

16. (original) The method of claim 13 further including a step of adjusting the sensitivity of the first and second groups of pixels to account for the expected level of contrast in an image.

17. (original) The method of claim 13 wherein the first and second groups of pixels capture green image data at two different sensitivities.

18. (original) The method of claim 15 wherein the sensitivity ratio of the first group of pixels to the second group of pixels is 1:4.

19. (original) The method of claim 13 further including a third group of pixels that captures image data of a second color and a fourth group of pixels that captures image data of a third color.

20. (original) The method of claim 19 wherein the first and second groups of pixels capture green image data, the third group of pixels captures red image data, and the fourth group of pixels captures blue image data.